

MAR 12 2007

ATTORNEY DOCKET NO. 03224.0001U1
APPLICATION NO. 09/839,581**REMARKS**

As a preliminary matter, the Applicant would like address which reference is being used to reject the Application, since the citations given in the Office Action appear erroneous. For example, page 2 of the Office Action asserts that the "switch [36]" of U.S.P.N. 6,370,605 to Chong (hereinafter "Chong II") discloses elements of claim 1 of the Application. Chong II does not refer to a "switch [36]"; rather, reference number 36 of Chong II refers to "computer system 36". Chong II at Col. 17, line 31. The Notice of References Cited that was provided with the Office Action, however, provides a different reference to the same inventor, namely U.S.P.N. 6,604,155 to Chong (hereinafter "Chong I"). Chong I does disclose a "switch [36]." Further, the remainder of the citations, such as to "processor [52]", also appear correct when reference is made to Chong I. Thus, for the purposes of this Response, the Applicant will treat each citation as a reference to Chong I.

Accordingly, claims 1, 3-13, 15-24, 49, and 50 are rejected as anticipated by Chong I and claims 2 and 14 are rejected as obvious over a combination of Chong I and Officially Noticed facts. In light of the Remarks, the Applicant respectfully requests reconsideration and allowance of the pending claims.

Rejections under 35 U.S.C. §102(e)

A proper rejection of a claim under 35 U.S.C. § 102 requires that a single prior art reference disclose each element of the claim. *W.L. Gore & Assoc., Inc., v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983). Anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. *In re Paulsen*, 30 F.3d 1475 (Fed. Cir. 1994). For anticipation, there must be no difference between the claimed invention and the reference disclosure as viewed by a person of ordinary skill in the field of the invention. *Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 18 (Fed. Cir. 1991).

Independent Claim 1

Claim 1 recites a system for retrieving data distributed across a plurality of storage devices, and includes a switch arranged between processors and storage devices. The switch of claim 1 independently routes data requests from the designated processor to storage devices, and

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also independently routes responses from the storage devices to the designated processor. Claim 1 recites in relevant part:

a switch arranged between the processors and the storage devices, wherein the switch independently routes a request for retrieving data from the designated processor directly to the storage devices containing the requested data and independently routes responses from the storage devices directly to the designated processor.

To support a rejection of claim 1, the Office Action states:

Regarding claim 1, figures 9 and 10 of Chong illustrate a system [32] comprising a plurality of storage devices [18A,B], a plurality of transfer nodes [34A-C], and a switch [36] arranged between the processors and the storage devices. Col. 14, ll. 8-16.

...
The switch independently routes a request for retrieving data from the designated processor directly to the storage devices containing the requested data and independently routes responses from the storage devices directly to the designated processor. Col. 6, ll. 44-48, 58-64, col. 12, l. 47 – col. 12, l. 7. Office Action at pages 2-3.

Chong I at Col. 6, lines 44-48 discloses:

Switch 36 is a conventional switch, and merely routes received packets within storage system 32. Switch 36 does not have an address, and communication packets are not addressed to switch 36. (Emphasis added).

Chong I at Col. 6, lines 58-64 discloses:

As will be described in more detail below, transfer node 34 eliminates storage controller 38, and link 40C in the embodiment of FIG. 3A, from a data path between host computer 12 and storage devices 18A-18B, thus allowing independent scalability of a number of input/output operations per second (IOPS) and a data transfer rate of storage system 32.

Chong I at Col. 12, line 45 to Col. 13, line 7 discloses:

A receive unit of channel port 50B of transfer node 34 receives the encapsulated translated read command packets and the lookup table information. CPU 52 stores the lookup table information within memory 54, extracts the first and second translated read command packets from the encapsulating packets, and forwards the first and second translated read command packets to the

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transmit unit of channel port 50B. The transmit unit of channel port 50B transmits the first translated read command packet identifying storage device 18A as its destination (XID=A,C) upon link 40B in FIG. 3A, and transmits the second translated read command packet identifying storage device 18B as its destination (XID=A,D) upon link 40B in FIG. 3A. Switch 36 receives the first and second translated read command packets via link 40B. Switch 36 routes the first translated read command packet to storage device 18A via link 40D, and routes the second translated read command packet to storage device 18B via link 40E.

Storage device 18A receives the first translated read command packet, accesses the requested data, and transmits a first data packet including the requested data to transfer node 34 (XID=C,A). Similarly, storage device 18B receives the second translated read command packet, accesses the requested data, and transmits a second data packet including the requested data to transfer node 34 (XID=D,A). Storage devices 18A-18B also generate status packets relaying the status of the read operations. The flow of data packets will be described first, followed by a description of the flow of status packets. Switch 36 routes the first and second data packets to transfer node 34. (Emphasis added).

As seen above, Chong I discloses the use of a "transfer node 34" that, according to Chong I, allows for elimination of the "storage controller 38" from a data path between a host computer and storage devices. Chong I at Col. 6, lines 58-64. Chong I does disclose a "switch", which is described as "a conventional switch, and [it] merely routes received packets within storage system 32." Chong I at Col. 6, lines 44-46. In accordance with its operation as a "conventional switch", the switch of Chong I routes data in response to direct routing commands. Chong I at Col. 12, lines 57-62; Chong I at Col. 13, lines 6-7.

As asserted on pages 8-9 of the Response to Office Action mailed April 6, 2006 (hereinafter "Prior Response"), references to conventional switches that simply route data in response to routing commands fail to teach or disclose the invention of claim 1. For example, the switch of Youden, which is described as "commercially available and requires no further description", fails to disclose a switch that independently routes data as recited in claim 1 of the Application. Prior Response at page 8. Similarly, the switch of Duso, which is described as a switch that employs "conventional switching mechanisms", also does not disclose a switch that independently routes data as recited in claim 1 of the Application. Prior Response at pages 8-9.

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Chong I, like Youden and Duso, only discloses conventional switching mechanisms: "Switch 36 is a conventional switch, and merely routes received packets within storage system 32." Therefore, the Applicant respectfully asserts that claim 1 is allowable for at least the reason that Chong I, like Youden and Duso, does not teach or disclose a switch that independently routes requests and responses as recited in claim 1 of the Application.

Independent claims 13, 49, and 50 are allowable for at least the reasons given for the allowability of claim 1.

Dependent Claim 3

Claim 3 recites "The system of claim 1, wherein the switch routes the request for retrieved data based on directory information obtained by the processor." (Emphasis added)

To support a rejection of claim 3, the Office Action states:

As to claim 3, Chong discloses the system of claim 1, as discussed above, wherein the switch routes the request for retrieving data based on directory information obtained by the processor, col. 7, ll. 30-44.

Chong I at Col. 7, lines 30-44 discloses:

Storage controller 38 receives a data transfer command (i.e., a data read or write command) from host computer 12 via a control path including transfer node 34, switch 36, and links 40A-40C. Storage controller 38 translates the data transfer command dependent upon: (i) the data transfer command, and (ii) configuration information of storage devices 18A-18B (e.g., a RAID configuration of storage devices 18A-18B). Storage controller 38 thereby produces one or more translated data transfer commands each directed to a storage device 18. Storage controller 38 forwards the one or more translated data transfer commands to transfer node 34. Transfer node 34 forwards the translated data transfer commands to storage device 18A and/or storage device 18B as appropriate. (Emphasis added).

The above-cited language from Chong I discloses that a "storage controller 38" receives data from a "control path" that includes "transfer node 34, switch 36, and links 40A-40C." The storage controller of Chong I "thereby produces one or more translated data transfer commands each directed to a storage device 18."

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The Applicant respectfully asserts that the above-cited language from Chong I does not anticipate claim 3 of the Application. First, as discussed above, the "conventional switch" of Chong I does not disclose a switch that independently routes requests and responses as in claim 1 of the Application. Second, even assuming arguendo that Chong I does disclose the switch of claim 1 (which it does not), the above-cited language clearly makes no reference to a switch routing requests based on directory information as recited in claim 3. The fact that a switch is part of a "control path" as disclosed by Chong I simply does not disclose, and is not relevant to, a switch that routes requests based on directory information as recited in claim 3 of the Application.

Therefore, the Applicant respectfully asserts that claim 3 is allowable for at least the reason that Chong I does not disclose a switch that routes requests based on directory information as recited in claim 3 of the Application. Claim 3 is also allowable for at least the reason that it depends from allowable claim 1.

Claims 15, 49, and 50 each recite a switch routing requests based on directory information, and so each of claims 15, 49, and 50 is allowable for at least the reasons given for the allowability of claim 3.

Rejections under 35 U.S.C. §103(a)

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991).

References cannot be combined where a reference teaches away from the claimed invention. See M.P.E.P. § 2145, § 2143.01, and § 2141.02; *In re Grasselli*, 713 F.2d 731, 743 (Fed. Cir. 1983). "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or

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would be led in a direction divergent from the path that was taken by the applicant.” *In Re Gurley*, 27 F.3d 551, 533 (Fed. Cir. 1994). Further, the level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308 (Fed. Cir. 1999); M.P.E.P. § 2143.01.

When making an obviousness rejection, it is impermissible to use the claimed invention as an instruction manual or “template” to piece together the teachings of the prior art so that a claimed invention is rendered obvious. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138 (Fed. Cir. 1985). Specifically, it is impermissible to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference suggests to one of ordinary skill in the art.

Dependent Claim 2

The Office Action asserts that claim 2 is obvious over a combination of Chong I and an Officially Noted fact. Office Action at page 5. The Applicant respectfully asserts that claim 2 is allowable for at least the reason that the Office Action does not provide a proper motivation to modify Chong I and arrive at the invention of claim 2 because Chong I teaches away from the invention of claim 2.

As discussed on pages 9-11 of the Prior Response, a reference to a conventional switch would lead one of skill in the art away from a switch that independently routes requests and responses as recited in claim 1 of the Application. Similarly, one of skill in the art would, given the “conventional” switch of Chong I, be directed away from a switch that independently routes requests and responses between processors and storage devices as recited in claim 2.

Accordingly, claim 2 is allowable for at least the reason that the “conventional” switch of Chong I teaches away from claim 2 of the Application. Further, claim 2 is also allowable because such a motivation to modify Chong I could only be the result of impermissible hindsight reconstruction.

Claim 14 is allowable for at least the reasons given for the allowability of claim 2.

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Dependent Claims 4-12 and 16-24

The Applicant respectfully asserts that claims 4-12 and 16-24 are allowable for at least the reason that each depends from an allowable claim.

CONCLUSION

In view of the Remarks, each of the presently pending claims in the Application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass the application to issue. If the Examiner believes discussion of any issue would expedite examination, the Examiner is encouraged to telephone the Applicant's undersigned representative. No additional fee is believed due. However, the Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,

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CERTIFICATE OF FACSIMILE TRANSMISSION UNDER 37 C.F.R. § 1.8

I hereby certify that this correspondence, including any items indicated as attached or included, is being transmitted via facsimile transmission to: Examiner Christopher Lambrecht, Art Unit 2623, (571) 273-8300, on the date indicated below.


Jason S. Jackson

3-12-2007
Date